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FY 2004 SUPERFUND ANNUAL REPORT

September 2005

I. Review of the Superfund Program

A Brief History of Superfund

In the late 1970s, a number of events made clear that serious hazardous waste problems were falling through the cracks of environmental laws: discovery of Love Canal, the community in Niagara Falls, NY, which later resulted in the relocation of citizens after hazardous waste contaminated their ground water; the Valley of the Drums site, where 10,000 leaking chemical barrels resulted in the creation of one of the most notorious places in Kentucky; and the little town of Times Beach, MO, became a part of the hazardous waste story, when oil contaminated with dioxin (i.e., any of a family of compounds known chemically as dibenzo-p-dioxins; concern about them arises from their potential toxicity as contaminants in commercial products) was applied to roadways, contaminating the soil and water. At the time, there was no Federal program with comprehensive authority to respond.

This time also marked the first efforts by the U.S. Department of Defense to address environmental contamination at its facilities. Later, in the 1980s, other Federal agencies, such as the U.S. Department of Energy, also began addressing environmental contamination.

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) to address the dangers of abandoned or uncontrolled hazardous waste sites. CERCLA provides EPA and other Federal agencies the authority to respond to a release or substantial threat of a release of a hazardous substance into the environment, or a release or substantial threat of a release of "any pollutant or contaminant which may present an immediate and substantial danger to public health or welfare."[2] The law established a Trust Fund known as the "Superfund," financed primarily by a tax on crude oil and certain chemicals, for EPA to use in cleaning up sites when the parties liable for the contamination could not be found or were financially unable to pay for the cleanup. The legislation also enabled the Federal government to recover the costs of its actions from the responsible parties or to compel them to clean up sites at their own expense.

LOVE CANAL, NEW YORK

- From 1942-1953, 21,000 tons of chemical waste deposited
- More than 200 homes and a nearby school built on a covered landfill
- Increased health problems and cancer experienced among residents
- President Carter declared State of Emergency in 1978 and 1980
- September 1, 1983, EPA added Love Canal to National Priorities List
- Federal funds used to permanently relocate 900 families
- September 30, 2004, Love Canal removed from National Priorities List
- New homes now built on the site

[2] *Petroleum and gas are not included under CERCLA as hazardous substances.*

Congress passed the Superfund Amendments and Reauthorization Act (SARA) in 1986. It established improvements to the Superfund program, many of which the Agency was already implementing. The second sidebar ("Provisions of SARA") shows some of the changes in the Superfund program as a result of SARA. CERCLA became expressly applicable to Federal facilities in 1986, when section 120 was added as a part of the SARA amendments. Before this amendment, no Federal facilities were placed on the final National Priorities List. Section 120 included deadlines for the assessment of Federal facilities and a requirement that responsible agencies enter into interagency agreements with EPA at National Priorities List sites. Since that time, EPA has placed 171 Federal facilities on the final National Priorities List. In addition, CERCLA section 104 authorizes the President (whose authority is delegated to EPA and other Federal agencies by Executive Order 12580) to conduct response actions at National Priorities List and non-National Priorities List sites. Since 1994, Congress has annually extended CERCLA authority through Congressional appropriations.

PROVISIONS OF SARA

- Increased the limits on, and the duration of, a removal action to one year and expenditures to $2 million
- Authorized waiver of removal limits consistent with long-term remedial action or long-term cleanup
- Required cleanup actions to meet State and Federal laws, to the extent practicable
- Required EPA to consider alternatives to disposal, and to treat wastes, to the extent practicable
- Stipulated the disposal of wastes removed from sites in RCRA-compliant facilities
- Provided deadlines for negotiating and settling with responsible parties
- Authorized EPA to share the cost of cleanup with responsible parties and to settle with de minimis parties
- Increased State involvement in listing and deleting sites from the National Priorities List and negotiating and settling with responsible parties

Key Superfund Program Components

Assessing Sites

The site assessment process includes three primary screening activities: Preliminary Assessment, Site Inspection, and Hazard Ranking System scoring package development. During the Preliminary Assessment, EPA collects and reviews readily available information (e.g., site history, drinking water sources, surrounding populations) about a site to determine whether a threat or potential threat exists and to decide if further investigation is needed. During a Site Inspection, EPA and other agencies further evaluate the extent to which a site presents a threat to human health or the environment through fieldwork to determine whether hazardous substances are present at the site and are migrating to the surrounding environment.

At the conclusion of each phase of the site assessment process, EPA applies the Hazard Ranking System model to derive a preliminary site score. The site score is used to determine whether further investigation is necessary or whether the site should receive a "No Further Remedial Action Planned" designation. A "No Further Remedial Action Planned" designation means that further remedial assessment under the EPA Superfund program is not planned, although a Superfund removal assessment and action may still take place. EPA may refer sites that present an immediate threat to human health and the environment to its removal program for emergency response. Sites can also be referred to the State or to other programs for further consideration (e.g., deferral to Resource Conservation and Recovery Act (RCRA) Corrective Action authorities).

Some recent initiatives in the site assessment program include: integrating assessments to reduce the time and cost of assessing sites, streamlining the listing process for the National Priorities List, and evaluating alternatives to placing sites on the National Priorities List.

Hazard Ranking System and National Priorities List

In response to a Congressional mandate to identify the worst hazardous waste sites in the nation, EPA created the Hazard Ranking System, a numerically-based screening system, that assesses the hazards a site poses to human health and the environment. The Hazard Ranking System score is calculated by analyzing waste characteristics, their pathways of exposure (e.g., ground water, surface water, soil, and air), and potential targets (e.g., human populations or sensitive environments).

Sites with Hazard Ranking System scores at or above 28.5 are eligible to proceed through a rule-making process, including a public comment period, whereby they are first proposed and then finalized on the National Priorities List. Many factors influence the prioritization of sites for listing, such as the degree of risk to human health and to sensitive environments; need for urgent response; level of support for listing from States, Tribes, and communities; and program management considerations affecting the types and numbers of sites finally selected for proposal. EPA also seeks alternative cleanup programs before sites are listed on the National Priorities List, to ensure that all sites are addressed, whether by placement on the National Priorities List or other cleanup approaches.

A NUMBER OF FIRSTS UNDER SUPERFUND

- 1982–first cleanup/construction completion (pre-National Priorities List) at Walcotte Chemical Site in Greenville, MS, on December 30, 1982
- 1983–406 sites were identified and placed on the first National Priorities List
- 1986–first site deleted from the National Priorities List, Friedman Property in New Jersey
- 1987–first Federal facilities added to the National Priorities List (total of 32 Federal facilities were added)
- 1995–first major, multi-party settlement–South Carolina Recycling and Disposal Inc.
- 1998–5,000th emergency removal action
- 2004–900th construction completion

EPA continues to list sites every year because new sites serious enough to warrant Superfund attention are identified by the Agency and its partners and pose threats to human health and the environment. Final listing begins the process of investigation, study, and design that can take several years. Only after a remedy is selected for long-term cleanup are EPA sites eligible for long-term cleanup funding. In addition, EPA monitors the site for any change in status that may require additional short-term cleanup. The first National Priorities List, announced in 1983, contained 406 sites. As new sites are identified, the National Priorities List is periodically updated. At the end of FY 2004, 1,237 sites remained on the National Priorities List. Through FY 2004, EPA had listed a total 1,529 sites (including 158 Federal facilities); proposed but not yet finalized 68 sites (including seven Federal facilities); and deleted 292 sites (including 13 Federal facilities).[3] For a variety of reasons, sites may remain on the National Priorities List awaiting deletion (e.g., community interest, continued monitoring), well after cleanup construction has been completed. EPA has completed construction at more than 900 National Priorities List sites.

[3] CERCLIS data are accurate through FY 2004 and were last updated on November 13, 2004.

In early FY 2005, the Agency issued a policy to update the National Priorities List at least twice a year. A schedule for such updates will help in budgeting both staff and contractor resources. EPA's initial schedule for updating the National Priorities List will be in April and September of each year. Each update will likely comprise a proposed rule and a final rule, as needed. Throughout the year, EPA will also have the discretion to promulgate "special rules" as needed to address unique circumstances for particular sites needing immediate proposal or finalization to the National Priorities List.

Responding to a Release at a Site

EPA may respond to an actual or potential release of a hazardous substance by short-term or emergency cleanups (i.e., removal actions). Three types of removal actions are: (1) emergency removals, where action is required within hours or days; (2) time-critical removals, where action may be delayed up to six months; and (3) nontime-critical removals, where action may be delayed more than six months. To date, under removal authority, EPA has provided alternative drinking water to nearly 615,000 people at National Priorities List and non-National Priorities List sites where available supplies were determined to be unsafe, and has relocated over 45,000 people when contamination posed the most severe, immediate threats to life and health, or temporarily because of a response action.

Remedial actions generally are long-term cleanup efforts to provide a permanent solution by reducing the release or threat of release of hazardous substances. Remedial actions or long-term cleanups may require years to complete.

Many of the more than 900 National Priorities List sites that achieved construction completion through FY 2004 have, or will have, remedies that only allow for restricted future uses because of remaining onsite contamination and the need to limit unacceptable exposures. Construction completion is the stage in cleanup when physical construction of all cleanup remedies is complete, all immediate threats have been addressed, and all long-term threats are under control. Though long-term cleanup actions may still be operating, a construction completion site is often ready for economic, social, or environmental reuse. Superfund Post Construction Completion activities ensure that response actions remain protective of human health and the environment. Moreover, EPA, States, responsible parties, and other Federal agencies have invested significant funding in site characterization as well as the design and implementation of response actions. Superfund Post Construction Completion activities help preserve these financial investments.

Superfund Post Construction Completion is integral to the Superfund remedial program. Post Construction Completion activities are important to maintain the integrity of Superfund response actions, provide relevant information to stakeholders, and promote the efficiency of post-construction operations. Superfund Post Construction Completion encompasses several related activities including:

- operation and maintenance, with long-term remedial actions or long-term cleanups, to monitor and confirm that remedies perform as intended;
- implementation and management of institutional controls (i.e., administrative and legal controls that help to minimize the potential for human exposure to contamination and protect the integrity of the rememdy at hazardous waste cleanup sites) to limit potential exposure;
- five-year reviews to evaluate the performance of remedies, identify potential problems, and adjust operations and maintenance as necessary;

- optimization of remedies to improve performance or reduce operating costs of remediation systems without compromising protectiveness; and

- notification and solicitation of comments on EPA's decision to remove sites from the National Priorities List.

The Superfund program has assumed a leadership role in developing a voluntary national network of interactive Federal, State, Tribal, local, and industry institutional controls tracking systems to both enhance the effectiveness of institutional controls and provide information on all cleanup sites with institutional controls in a community. A key challenge to the effectiveness of institutional controls is the overlapping and often disconnected responsibilities at different levels of government for implementation, monitoring, and enforcement. The Superfund program developed a web-based, EPA institutional control tracking approach, known as the National Institutional Control Tracking Network, which is capable of receiving, storing, and exchanging various levels of institutional control information at EPA-lead sites. This system contains baseline information on nearly 900 Superfund Construction Completion sites and is undergoing rigorous quality assurance and quality control analysis. The success of this network will rely on the standardization of terms and the willingness of Federal, State, Tribal, and local agencies as well as industry representatives to use the system to collect and exchange information.

A logical extension to EPA's goal of cleaning up Superfund sites is to return properties to productive use. During the past five years, EPA has awarded funds to communities to address Superfund sites in their neighborhood; formed partnerships with property owners, local governments, and other organizations to reuse sites; and developed or revised guidance documents to incorporate consideration of the future use of the land into all aspects of the Superfund process.

Superfund's response activities are guided by the National Oil and Hazardous Substances Contingency Plan (NCP 40 CFR Part 300) which outlines the steps to follow in response to hazardous substances or oil released or likely to be released into the environment.

Information on sites addressed under the Superfund program is found in Superfund Site Progress Profiles and fact sheets released by EPA on February 17, 2005, on the Superfund Web site. Additionally, site-specific details are available on regional web sites.[4]

Enforcement

CERCLA's strong enforcement provisions help to minimize litigation time and concentrate resources on actual cleanup.[5] EPA has three options in responding to a release at a non-Federal facility. EPA has the legal authority to: (1) conduct the cleanup and seek cost recovery from responsible parties, (2) enter into settlement agreements, or (3) issue a Unilateral Administrative Order to compel responsible parties to conduct a cleanup or pay for cleanup. Regardless of EPA's response decision, the liable financially viable parties must pay the cost of cleanup.

[4] The electronic version of this report contains a link to individual site profiles describing EPA's progress in addressing threats at the sites.

[5] Courts have interpreted CERCLA to impose retroactive, strict, and joint and several liability.

In 1989, EPA began promoting administrative changes to improve the program by publishing A Management Review of the Superfund Program, also known as the "90-Day Study." This report provided a long-term strategy for the future of the program, including the "enforcement first" policy that remains in place today. Through this policy, EPA assigned the highest priority to locating responsible parties and getting them to address cleanup. Since that time, EPA has designed other initiatives to increase participation by responsible parties, including:

- early determination of responsible parties at sites;
- authorization of capable parties to conduct response actions;
- increased cost sharing by EPA;
- targeted responsible party oversight;
- consideration of future land use before and during cleanups, thereby eliminating barriers to redevelopment; and
- use of dispute resolution techniques to achieve settlement.

Federal Facilities Cleanup

EPA's Federal facilities program under Superfund has two major components (programmatic and enforcement). The Office of Enforcement and Compliance Assurance's Federal Facilities Enforcement Office is responsible for ensuring that interagency and Federal facility agreements required by section 120(e) of CERCLA are in place for National Priorities List facilities. The Federal Facilities Enforcement Office also has the lead for disputes arising under interagency and Federal facility agreements. The Federal Facilities Restoration and Reuse Office has the EPA-lead for response activities, such as overseeing cleanup at National Priorities List and selected non-National Priorities List sites, addressing response policy issues related to cleanup, supporting the Department of Defense's Base Closure Programs, and promoting revitalization of Federal properties.

Community Involvement and Stakeholder Participation

Stakeholder involvement is an integral part of cleanup planning and implementation that occurs early and is sustained throughout all stages of site work. Superfund engages stakeholders (e.g., communities, Tribal nations, States, and other interested organizations and groups) at each site in an appropriate and meaningful way. This policy is based on the recognition that stakeholders should have a say in the cleanup decision-making process and that robust stakeholder involvement will improve the quality and acceptability of the cleanup. At many sites, the program exceeds the mandatory basic requirements for public participation by providing more frequent information and specially developed opportunities for input. Several ways the Superfund program enables community participation include:

- awarding Technical Assistance Grants to a total of 276 communities affected by Superfund cleanup, including Federal facilities;
- providing educational and technical support for more than 200 communities through the Technical Outreach Services to Communities program; and
- organizing Community Advisory Groups in 90 communities across the nation.

Building on the recommendations from the 1992 and 1996 Reports of the Federal Facilities Environmental Restoration Dialogue Committee, Federal agencies have been leaders in promoting community involvement. Among the Federal Facilities Environmental Restoration Dialogue Committee's recommendations was the creation of restoration advisory boards to serve as focal points for citizen input to the cleanup process at Federal facilities. Federal agencies have created 132 restoration and advisory boards at National Priorities List sites and 52 at non-National Priorities List facilities. In addition, EPA awarded 44 Technical Assistance Grants at Federal facilities on the National Priorities List.

Redevelopment and Reuse

EPA's Superfund Redevelopment Initiative continues to engage communities and other stakeholders on issues of site reuse and long-term stewardship. Since 1999, the Superfund Redevelopment Initiative has offered more than 90 communities assistance with reuse planning to identify reasonably anticipated future land uses for Superfund sites.

The community-based identification of reasonably anticipated future land uses informs all stages of the remedial or long-term decision-making process, strengthening EPA's relationships with communities, and creating opportunities to target planning and potentially reduce the cost of long-term cleanups. In 2004, the Superfund Redevelopment Initiative launched the Return To Use Initiative, an effort to work with local stakeholders in identifying and removing obstacles that unnecessarily prevent construction completion or National Priorities List site deletion, and permit reintegration of completed or deleted National Priorities List sites into the community and local economy.